

# MEDICAL EXAMINER.

DEVOTED TO MEDICINE, SURGERY, AND THE COLLATERAL SCIENCES.

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## TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

30th September, 1839.

The President, Dr. GERHARD, in the chair.

Dr. Pennock exhibited to the Society a specimen of *Disease of the Heart, combined with Aneurism and extensive Ossification of the Aorta*. He also read details of the history of the case, and of the autopsy. Dr. Pennock requested and obtained permission to withdraw the paper, it being his intention shortly to publish it in connection with a series of cases on the subject.

7th October, 1839.

The Vice President, Dr. PENNOCK, in the chair.

Dr. Stillé exhibited a specimen of *Cancerous Tumour of the Foot*, and read the following notes of the case:

Mrs. Catharine C— entered the Pennsylvania Hospital in the latter part of the month of September last. She was forty-seven years of age, the mother of twelve children, and her general health had always been robust. At least thirty years ago she was frequently struck with the tenderness of a particular part of the left instep; but she could not account for it, as there was no discoloration of the skin nor any swelling there. Fifteen years ago she let a heavy stick of wood fall upon the part, which was, in consequence, so badly bruised and swollen, that she was obliged to keep her bed for about a fortnight. As the effects of the accident disappeared she became sensible of a small lump, about the size of a pea, exactly over the spot which had formerly been tender to the touch, and which was now sensitive in an increased degree. This tumour became gradually larger until at last it occupied the whole back of the foot, extending from the ankle-joint to the toes, and from one side to the other of that member. The period of its most rapid increase has been the last two years, during which time it became larger in proportion over the *tarsus* than elsewhere. The pain in it has often been severe, and usually of a shooting or pricking character.

On Mrs. C—'s entrance into the hospital she was in the enjoyment of good general health; her appetite, digestion, and sleep, were natural; her strength was sufficient to enable her to perform without difficulty her household duties up to the period when she came to the city from the interior of Pennsylvania. Her menses began to become irregular about eighteen months ago, and ceased altogether within the last four months. The motions of the left foot upon the leg were free, but more limited than those of the right; the extension of the toes was more easily performed than their flexion. The tumour filled the space above described, and its highest point above the sole of the foot was about four inches. The

skin covering it was of a dull red colour, and marked by many veins slightly distended. To the touch it was warmer than the neighbouring skin of the leg. The tumour, in general, was fixed and hard, though softer in its anterior than in its posterior portions; in the former of these it was elastic, and in points gave obscure signs of fluctuation: in these points the sensibility to pressure was acute. In several places could be felt resisting portions, as of bone.

Drs. Harris, Randolph, and Norris, having examined the case in consultation, it was agreed that the tumour was of the nature of osteo-sarcoma, and the patient was advised to have her leg amputated. She consented, and the operation was performed on the 4th October, by Dr. Norris. The patient is doing well at the present date.

### Examination of the tumour.

The extreme limits of the tumour are as follow, viz., from the astragalus behind to the second phalanges of all the toes before; internally, from the internal malleolus to the first phalanx of the great toe; and externally, from the external malleolus to the second phalanx of the little toe. The arched form of the sole of the foot is preserved in a great degree, and the fat under the skin of this part, and that covering the heel, are abundant, and of a natural aspect. The tumour is enclosed in a proper fibrous sac, entirely distinct from the periosteum, which is perfect, except in certain points to be presently mentioned. This fibrous *envelope* is so distributed as to give distinct coverings to the several masses composing the tumour, and to their convolutions. The general aspect of the tumour, when divided by a longitudinal incision, bears a remarkable likeness to that of the brain, portions of the cut surface being of a pearly white, and others of different shades of gray, rosy, and red.

Several substances compose the tumour.

1st. An opaque, white, hard, elastic substance, generally disposed in rounded masses of irregular surface, grating under the scalpel, presenting, on section, a striated appearance, intermingled with a reddish gray substance, softer and less opaque than itself, and containing in the central portions of some parts shapeless masses of calcareous matter, of granular structure, and chalky whiteness. This substance forms the posterior third of the tumour.

2d. A cerebriform substance, which makes up the two anterior thirds of the tumour; it is of a grayish or rosy hue, is easily torn by firm pressure with the finger where most resistant, and is no where firmer than recent healthy brain; it varies from this degree of consistence to that of a soft pulp, easily removed by the handle of the



scalpel. It is generally disposed in convoluted masses like the first.

3d. Numerous masses of osseous matter, superficial, or imbedded in the substance of the tumour, looking not unlike the *sequela* of necrosed bone, irregular in form, and from three to six lines in thickness. They have no connection with the skeleton of the foot.

4th. In several cavities situated in the anterior half of the tumour there are found, besides the softened medullary substance, coagula in the several stages of formation, viz. dark and clotted blood, amber-coloured, translucent masses, and opaque, brownish concretions, offering the fibrous structure well marked.

Of the bones of the foot, the metatarsal of the great, fourth, and little toes, have their ordinary shape, colour, and hardness; so also have the astragalus and the os calcis, and the phalanges of the toes. The articulations of these latter are in a healthy condition, and their motions are free. All the extensor tendons of the toes, and the flexors of the foot, pass through the body of the tumour, and move freely in it. The cuneiform, cuboid, and scaphoid bones, are not altered in shape, but are all more easily penetrated by the scalpel than in their sound state. The second and third metatarsal bones offer very profound alterations. The medullary canals in both are exposed, and contain a pulpy matter identical and continuous with that of the tumour. The second metatarsal bone is, in its upper third, a mere shell of semi-transparent bone, not thicker than a sheet of writing paper,—its sides swell out, so as to give the cavity, which is open above, an elliptical shape, with a transverse diameter of about half an inch. The lower two-thirds of this, which as well as the whole of the third metatarsal bone, are not more than two or three lines in thickness in the middle, present in points a spongy structure, are very brittle, of a whiter colour than the adjacent bones, and have their medullary canals exposed in several places. The periosteum appears to be wanting on both of these bones. The inter-osseous muscles are thin, pale, and flabby.

#### Recapitulation.

A woman of good constitution, without hereditary cancerous predisposition, has a tumour developed by a bruise in a spot habitually tender upon pressure. It increases during fifteen years; and the pain, together with the physical annoyance caused by the size of the tumour situated on her foot, induce her to have her leg amputated. After this operation, the tumour is found to consist of scirrhus and cancerous matters, and to have its most intimate connection with the medullary canals of two metatarsal bones.

#### Observations.

Benjamin Bell places the origin of osteo-sarcoma either in the bone, or in the adjacent soft parts, and makes its essential characters the conversion of these parts into a matter resembling

flesh.\* Dr. Warren, of Boston, says that, contrary to the opinion of most writers, he thinks osteo-sarcoma arises from the periosteum. He gives no description of the intimate structure of the tumours he treats of under this name. I have not been able to arrange this case under any of the descriptions given by English writers prior to the cultivation of pathological anatomy in France. It, however, answers perfectly to the disease described by Cruveilhier, La Roche and Sanson, and Begin, as scirrhus and carcinoma of the bones. Amongst the English authors, Drs. Carswell and Hodgkin have described the affection very accurately; the latter, especially, after treating separately of "scirrhus" and "fungoid disease," remarks that the two diseases are sometimes encountered in different organs of the same subject, as for example, there may be a scirrhus of the mamma, and a fungoid disease of the liver, spleen, or kidneys. "It sometimes, though less frequently, happens, that one part of a tumour has the character of true scirrhus, whilst another part is decidedly fungoid." Such, it is evident, is the combination existing in the present case.

That the tumour arose in this instance from within the second and third metatarsal bones seems probable, because, 1st, the tumour evidently began at the point where we now find the most serious lesion; 2d, the adjacent bones were comparatively but little injured; this would not have been the case if the more profound lesion alluded to had been merely the effect of pressure from without; 3d, these bones are changed in their entire structure; 4th, the matter contained in them is identical with that of the softer portions of the tumour.

The shell-like condition of the upper third of the second metatarsal bone resembles that of *spina ventosa*; but the characters of the tumour itself are strictly those of cancer, as it occurs in the glandular and other soft tissues, while the contents of a *spina ventosa* are mentioned as fluid. The existence of several pieces of bone in different parts of the tumour ought not, I think, to countenance the supposition of its being *spina ventosa*; for their mass (taken together) was greater than the deficiency in the metatarsal bones, to say nothing of their irregular shape, and their several positions.

In conclusion, then, it would seem that whatever name the tumour, as a whole, may receive, its anatomical characters were those of scirrhus and cancer. In this view, it is, indeed, not easy to account for the inconsiderable influence of the tumour on the health of the patient during the long period of fifteen years. But this is not a subject for discussion here.

M. Trousseau has been elected Professor of *Materia Medica and Therapeutics* in the Faculty of Medicine of Paris, in the place of the late Baron Alibert.

\* A Treatise on the Diseases of the Bones, by Benjamin Bell. Edinb. 1828.



## FOREIGN CORRESPONDENCE.

LETTER FROM DR. BEAUGRAND.—No. IV.  
*On the Radical Cure of Hernia—M. Gerdy's Plan.*  
 To the Editors of the Medical Examiner.

PARIS, 15th July, 1839.

FROM the earliest times, the radical cure of hernia has been an object of medical attention. The ill success of the various means employed to effect this purpose had at length decided the surgeons of the last century to abandon it, until lately the labours of MM. Belmas and Jameson again awakened the notice of surgeons and the hopes of the afflicted.

In 1834, M. Gerdy conceived an entirely new project, which he put in practice, for the first time, in 1835, and which he has, since, a considerable number of times repeated with nearly unvarying success. Attentive observation of the results of the operation has enabled him to apply some important modifications to the manual process for the relief of this affection. Several patients having been recently submitted to the operation at the hospital La Charité, M. Gerdy has had an opportunity of showing to his pupils his mode of practice, and the results which attend it. We propose to offer your readers a recapitulation of these lectures, which are of special practical interest, and to preface them with some remarks upon the methods anciently or more recently proposed for the radical cure of herniæ.

The first fact which strikes us in looking over the list of authors who have treated of herniæ, is, that the old writers devoted themselves almost exclusively to the radical cure of these lesions, whilst those of later times have given more particular attention to that very alarming complication, strangulation. Has this been owing to the disgust occasioned by repeated failure, or is it but one of those singular caprices of which history furnishes so many instances, which have at times consigned to oblivion many useful inventions, afterwards to revive them, with all the honours of novelty? Up to the time of Franco and of Ambrose Paré, it was not proposed to operate for strangulated hernia. Celsus is opposed to any operation in this case, (Book vii., chap. 20.) Astius pushes his timidity so far as to delay attempts at reduction so long as the symptoms do not moderate, when he recommends the scarification of the inflamed parts. Such were the precepts which influenced surgeons until the sixteenth century. Let us examine the plans adopted for the cure of hernia. They may be divided,

according to Guy de Chauliac, into two classes. The first comprehends external treatment, topical applications, compresses, rest, and regimen; the second, manual operations.

It is incontestable, that the employment of the means embraced in the first class is capable of effecting a radical cure. No further result can, however, be obtained, than the closing of the ring; and, even if the obliteration of the neck of the sac took place, the parts would be merely restored to the condition in which they were previous to the formation of the hernia. Under the influence of a fresh exciting cause, the protuberance of the intestine must again take place, there being no barrier to arrest its progress. To this first objection to the methods in question may be added others. First, their uncertainty: of the multitude of persons who wear trusses, it is well known that there are very few who are completely cured. Nor is absolute rest a more certain means. A few rare cases are cited, and cited because they are rare, of cures of hernia effected during prolonged rest in various diseases; but how many individuals are almost daily met with, who, after an absolute confinement of months, as in fractures, for example, retain the ruptures with which they had been previously affected. As for the employment of astringents, admitting their occasional efficacy, the great length of time which they require to effect a cure, according to the reports of their advocates, is a sufficient objection. M. Beaumont, in a work on the subject, (Paris, 1827,) reports out of fifteen cases of inguinal hernia, fourteen cured after a mean period of two years.

The second class comprises surgical operations. From remote antiquity, these have been resorted to for the cure of hernia; they may be reduced to four heads. 1st, it was attempted to produce inflammation, and even the destruction of the hernial opening, by means of caustics, with a view to subsequent cicatrization; 2dly, the obliteration of this aperture was sought by means of ligatures employed in various manners; it was, by others, thought that the incision of the integuments and of the sac, and even their complete excision, would bring about a suppuration of the parts likely to result in the formation of a solid cicatrix, which would obstruct the passage of the intestines; 4thly, others, finally, have proposed to block up the ring, by introducing a substance capable of adhering to it,—of this nature is the plan of M. Gerdy. These various methods have often been combined one with the other;



thus, certain surgeons of the middle ages used the caustic, or a ligature, after having made an incision; but, in these cases, the cauterization or the ligature was the essential part of the operation.

I shall not dwell upon the dangers of cauterization. It is sufficient to read the works of those who have advocated this plan, as Brunus, Lanfranc, Guy de Chauliac, &c., to see that it was never employed without anxiety, and that it was followed by formidable, and even mortal consequences. Lanfranc, particularly, inveighs against the detestable eagerness of surgeons who hesitate not to put a little gold in the balance with the lives of their patients, and expose their victims to violent measures, his own proceeding being, however, of course, excepted. Whatever success may then be anticipated from this method, it has been for ever banished from science. The idea of closing the hernial aperture with a ligature, to procure its obliteration, nearly in the manner that wounds are closed with a suture, very naturally suggested itself to the mind of surgeons. Thus, we see this practice mentioned in the oldest times, (see Actius, Paul of Egina,) and receive considerable extension in the middle ages, (see Brunus, Theodoric, Roger of Parma, &c.,) at the same time that it was modified in its application. There were two principal modes employed, according as the spermatic cord was or was not implicated, and, afterwards, according as the testicle was or was not involved. I shall not enter into the details of these various operations; I shall merely observe, that, in our own times, M. Bonnet, of Lyons, has proposed a kind of suture, of the contrivance and results of which he has published an account in the *Journal des Connaissances Medico-Chirurgicales*, for July, 1836. "This method consists in inserting pins, near the ring, through the hernial envelopes, and so arranging them as to keep in contact the walls of the sac, leaving them in place until the development of adhesive inflammation." At the time mentioned, the author could bring to the support of his plan but four successful cases,—he has since obtained a larger number. Does this plan meet the end in view for the radical cure of hernia? Does M. Bonnet suppose that it is always very easy to avoid wounding the spermatic vessels, particularly when they have been somewhat scattered by the hernial tumour? And, if the sac has been reduced, what will be effected by a suture passing merely through the skin? Besides, even if the sac remain without

the ring, as generally happens, is it very easy to pinch it up with the skin, to insert the pins through it?

As for the methods of incision, excision, castration, &c., no danger is to be apprehended of an attempt to revive them: we shall merely observe that incision, *without opening the sac*, may be employed in certain cases in which invagination is impracticable, as will be seen further on.

The last method which can be classed under the head of surgical operations is that of the *obliteration* of the hernial canal. In this case, a body, organized or not, is introduced into the canal, in order, by its presence, to develop an inflammation, which, involving the surrounding parts, may stop up the canal. Such is the plan of plugging up the ring with the testicle, described and highly censured by St. Moinichez and by Seultat. Such is the method of M. Belmas, who introduces into the neck of the sac a little bladder of oxen's gut, or filament of the same covered with the gelatine of bird-nests. Such is the insertion (pelotonnement) of the hernial sac in the ring after the operation for strangulated hernia, proposed by Garengeot, (*Surgical Operations*, ed. of 1718,) and condemned by Louis, (*Memoir of the Roy. Acad. of Surg.*, vol. xl. p. 471, ed. in 12mo.) Such, in fine, is the well known operation of M. Jamelon.

Struck with the inconveniences and dangers of these different methods, and satisfied of their inefficacy, M. Gerdy, as we set out with mentioning, suggested in 1834, and practised in 1835, a new mode of obliteration, which had never previously been attempted. This process, called by the author invagination, consists in obliterating the hernial canal by means of a wedge formed at the expense of the skin of the scrotum. This skin, pushed by the fingers into the canal, is there retained by a few threads of a suture. At first M. Gerdy employed five threads, afterwards but three, and, for a long time, he has been satisfied that two, or even a single thread, sufficed to effect the most prompt and solid adherence of the invaginated skin. The inflammation of the latter was immediately brought about by means of a piece of charpie or cotton impregnated with ammonia. Finally, in the first operations, the groin was covered with a bladder of cold water, and the threads were removed the fifth day.

Let us follow the details of this operation. For a few days previously, prudence requires dieting on the part of the patient; the evening before the operation he is to be purged with



Seidlitz powders, and on the morning of the day he is to have an emollient injection. The object of these precautions is to obviate the necessity of the patient's going to stool during some days immediately following the invagination.

The instruments necessary for the operation are, first, a curved needle, flattened, and sharp at both edges, eight or ten inches long, and about a line and a half broad—with the eye about four lines from the pointed extremity, the other extremity terminating in a flat button, by which the needle is moved backwards and forwards in the porte-needle. This has been expressly contrived by M. Gerdy, and consists of a steel blade, three lines in diameter and five or six inches long, set in a wooden handle, with a curve at its extremity similar to that in the needle; the entire concavity of this instrument has a groove for the needle to slide in, with the edges turned in, in order to retain the latter in place; secondly, a number of rolls of adhesive plaster, or of gum elastic sounds, seven or eight lines in length, and three in diameter; and, thirdly, some coarse waxed thread. In using the instrument, a double thread is passed through the eye of the needle, the extremity of which is tied and hangs out of the eye only about an inch, that it may be the more readily withdrawn. During the operation, the thread accommodates itself very well to the groove of the porte-needle, along the concave face of the needle.

Every thing being properly disposed, the scrotum and inguinal region having been previously shaved, and the hernia perfectly reduced, the patient is placed upon his back, his head supported with pillows to relax the muscles of the abdomen, the legs separated and supported by assistants, in a word, nearly in the position for the sub-pubic operation of lithotomy. The surgeon places himself between the legs of the patient, and, resting the extremity of his left index-finger upon the lateral parts of the scrotum, about an inch from the root of the penis, presses upon the skin, pushes it up in the direction of the spermatic cord, enters the inguinal ring, and thus thrusts the integuments into the very bottom of the canal. The skin is thus made to form an actual invagination, in the form of the finger of a glove, which fills up the hernial canal, and shuts it up like a stopple. To keep this stopple in place is now attempted by means of a suture. For this purpose, keeping his index-finger in the situation described, the operator slips along the palmar

side of his finger, which looks forward, the extremity of the convex side of the porte-needle, the handle of which he holds with his right hand nearly perpendicular to the axis of the body, and thus introduces it to the bottom of the cul-de-sac. The extremity of the porte-needle is thus placed in front of the finger, which even rests upon the instrument and prevents its approaching the belly, while the needle is rapidly thrust along and carried through the most distant portion of the invaginated skin, the whole anterior paries of the inguinal canal, and the skin which covers it. The point of the needle is thus brought out externally; it is sometimes a little difficult to effect this, as the integuments of the groin yield before the point of the instrument, and are pushed forward rather than penetrated. It will be accomplished with greater ease, by depressing the integuments on each side of the joint, either with the finger of an assistant, or dissecting forceps. When the needle has emerged beyond the level of the eye, the thread is disengaged, the tied extremity remaining without, and the instrument is drawn back into the canula, which had remained at the bottom of the cul-de-sac. The porte-needle is withdrawn, the needle is again threaded with the extremity of the double thread which has passed through the cul-de-sac—the left index-finger still occupying the same place. The instrument is then introduced a second time, by means of the same manœuvre, care being taken to pierce the integuments about two or three lines outside of the first wound. The thread being disengaged from the eye, and the needle withdrawn, the invaginated cul-de-sac is retained at the bottom of the inguinal canal, that is to say, an inch and some lines above the ring, by means of the double thread, the ends of which remain without. If the canal is very large, a second thread may be placed in the same manner, outside the first. That being done, the next object is to fasten the extremities of the suture, which is done as for the ordinary quill suture. One of the rolls of which we have spoken is passed through the tied extremity, and by pulling the other end, the cylinder is brought in contact with the skin; a second roll is placed between the two ends forming the other extremity, and they are twisted in such a manner as to allow the suture to be loosened in case of necessity. It will be seen that the invaginated cul-de-sac is fixed in situ by a ligature, the middle of which passes through its bottom, while the extremities are fastened externally upon the rolls—the strangu-



lation of the soft parts included, which occurs in the use of other sutures, being thus avoided.

The operation being terminated, the patient is kept in bed, with a pillow under his hips, and a cushion under the scrotum, to keep that organ elevated and in apposition with the pubis. The weight of the testicles is thus prevented from interfering with the perfect rest of the inguinal regions. Upon the latter are applied compresses, soaked in tepid or cool water, according to the season, and the patient is subjected to diet for two or three days.

What takes place during this operation? Sometimes, in pushing up the skin, the peritoneal or hernial sac is also pushed up: in this case, it is behind the finger, and the needle does not implicate it. The same may be said of the epigastric artery. For these parts to be wounded, the instrument, instead of penetrating from behind forward, must get to the other side of the finger of the operator in search of the organs protected by the finger, which is quite impossible. This is established as well by reasoning based upon an anatomical knowledge of the parts, as by the numerous cases upon which the operation has been performed. It may happen that the hernial sac is adherent, in which case it will accompany the skin pushed up, and the invagination will take place in its interior; but, generally, the skin of the scrotum, being loose and moveable, slips in front of the sac, and places itself between it and the ring. The pain during the operation is ordinarily slight; the puncture is, however, tolerably painful; and those who analyze their sensations feel distinctly the double wound which the needle makes, first in passing through the skin of the cul-de-sac, and afterwards through that around the outside of the inguinal region.

After the operation, there follows a very remarkable series of phenomena, of which the surgeon should be apprised. In the first place, the presence of the thread and of the portion of invaginated skin, determines an inflammation of the cellular tissue enclosed in the inguinal canal. This inflammation, which supervenes in a few moments, is perfectly established at the end of twenty-four hours, and the adhesion between the plug and the walls of the canal is at this period sufficiently formed for the thread to be removed without inconvenience. If the parts are then touched, there are felt not only the invaginated cylinder, but a hard kernel, slightly sensible to pressure, which is about an inch long.

The following day, the adhesion becomes more

and more intimate, and the kernel presents still more hardness. The threads are then to be withdrawn: M. Gerdy usually takes them out the third day, often the second, and, in one case, to which we shall allude further on, they were withdrawn at the expiration of thirty hours. To get the threads out, the end of the twisted thread is cut under the cylinder of adhesive plaster, or of gum elastic sound; the other cylinder is then withdrawn with the loop which kept it fixed. From the openings through which the points of the suture passed, there escapes pus, sometimes in considerable quantity. This pus must be daily, and even several times a day, evacuated, by slightly compressing the surrounding tissues; and as these small openings are easily obliterated by the pus itself, which coagulates and forms scabs at their orifices, at every dressing the scabs should be removed with the point of a stylet. The suppuration generally dries up at the end of seven or eight days; the limits of the inflammatory kernel are then much contracted; a hard cylinder is felt in the inguinal canal, which closes it exactly, and resists the weight of the intestines, when the patient exerts himself. At a later period, the invaginated cul-de-sac is transformed into a fibrous cord, which may be readily perceived for some time in persons who have been operated upon. The same thing happens here as in the case of arteries, the calibres of which have been obliterated,—that is to say, the cutaneous plug is gradually absorbed, and, after a lapse of time, disappears altogether, leaving the canal in its primitive healthy condition, as it was before the occurrence of the hernia. As for the hernial sac, the portion contained in the canal undergoes adhesive inflammation, and is soon completely obliterated. This fact we ascertained two years since, in a subject who died of sporadic cholera, the eighth day after the operation, without the supervention of the slightest local accident.

While these phenomena have been taking place, a purulent secretion is observed in the cul-de-sac, proceeding from the part through which the threads had passed. Still later, the invaginated portion ulcerates at the level of the external orifice, separates from the skin of the scrotum, and the fold formed by the integuments at the level of the ring descends. By degrees, the lips of this opening close, and are finally so completely effaced by the retraction of the surrounding skin, that, at the end of twenty or thirty days, there is barely visible a small cicatrix, which is lost in the rugæ and hair of the scrotum.



What are the accidents which may complicate this trifling operation? In the first place, the inflammation necessary to procure the union of the parts may exceed ordinary limits, and spread to the cellular tissue of the inguinal region. The free application of leeches, venesection, if there be febrile reaction, the prolonged use of the warm bath, with particular attention to keeping the patient quiet, and, finally, starch poultices, will not fail to arrest the progress of the inflammation, and bring it to a favorable termination. An attack of erysipelas should be combated by the same remedies; and, if there should be any considerable tumefaction of the parts, it would be advisable, in case the threads have yet not been withdrawn, to take them out at once, to avoid the strangulation and gangrene of the parts enclosed. The accident most to be apprehended, *a priori*, would be peritonitis; yet, what is not a little remarkable, this symptom did not once show itself, in more than fifty patients subjected to the operation. It is not, therefore, worth while to dwell upon it.

Is the operation under notice applicable to all cases of hernia, or is it liable to the reproach addressed to lithotomy, that its subjects must be selected? But, except in the cases in which the patient is otherwise doomed to certain death, may not the same be said of all surgical operations? are they not all liable to counter-indications? and why should the means of relieving a certain number of sufferers be rejected, because the relief cannot be extended to all? We do not hesitate frankly to admit, that the subjects must be selected for the operation. But, the motives for exclusion are few in number, and may hereafter be diminished. Thus, formerly, M. Gerdy, not willing to risk the success of his operation, did not care to apply it to cases of congenital hernia, till, in the course of the year 1836, he operated upon a lad, fourteen years of age, affected with a congenital hernia, which, from inaccurate information, was supposed to have been acquired. Not the slightest unfavourable symptom occurred; the threads were withdrawn at the end of thirty hours, and the cure was as rapid as satisfactory. There are subjects, afflicted with old herniæ, in whom the canal has acquired so great a volume, that only a part of it can be obliterated by an invagination. In such cases, M. Gerdy performs a double operation, introducing successively, at different times, the skin of the scrotum into the vast opening. He waits for the first operation to succeed before attempting a second, as the former

may suffice to bring about the necessary closing of the ring. When, on the other hand, the latter is originally so narrow that the finger cannot be introduced, it is to be dilated by the repeated introduction of the little finger, when the operation is performed as under ordinary circumstances.

In women, the inguinal ring is excessively contracted, and an invagination of the skin almost impossible. Two years ago, M. Gerdy attempted the operation upon a young woman, but the integuments could not be properly pushed up; nothing more could be obtained than a small fold, a few lines in depth. The ordinary procedure had in this case to be laid aside; and the ring having been exposed by means of an incision of an inch in extent, made with the greatest precaution, a small tent of charpie was placed in it, which, being daily renewed, produced an inflammation, which resulted in the perfect obliteration of the inguinal ring. This woman has been recently seen by M. Gerdy, and at the time the cure remained perfect.

There are, therefore, no absolute or necessary reasons to exclude any case from the benefits of the operation, except the irreducibility of the hernia, and the bad constitution of the subject, which latter is a circumstance of prime importance in every surgical operation, however safe its character.

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## THE MEDICAL EXAMINER.

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PHILADELPHIA, OCTOBER 12, 1839.

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At the late election at Philadelphia, Dr. Heintzelman was chosen Coroner. This gentleman was for some years engaged in the practice of medicine, and possesses many qualifications for the responsible office of coroner.

It is, we believe, the first time that a member of the medical profession has been elected at Philadelphia to fill an office which demands, for an adequate fulfilment of its duties, an acquaintance, at least, with the anatomical structure and medical jurisprudence. It is true that a conscientious coroner (and our late coroner was both an able and a conscientious officer) endeavours to supply the deficiency of his own knowledge by a frequent reference to a medical adviser; but this is an imperfect mode of getting at second hand that information which can be most effectually applied when possessed by the officer himself. The duties of the office are such that the coroner is often unable to consult with a physician who is familiar with the subject, and he is obliged either



to dispense with medical assistance when examining a body, or to call upon a practitioner of medicine who may be quite unaccustomed to the peculiar and often difficult task of deciding a mooted point of medical jurisprudence. Yet these difficulties are of the most common occurrence,—and a neglect of duty frequently occurs, not from unwillingness on the part of the coroner to act with fidelity, but from inability to perform a task which requires a long and laborious training.

We do not think it necessary that a coroner should possess so intimate an acquaintance with medical jurisprudence as to enable him to dispense with all aid from those of his professional brethren whose studies may have been directed to a difficult department of the science; but if his original powers of mind be good, and his professional education derived from a correct source, a medical coroner is always apt to seek assistance when needed, and to aid the jury in deciding upon a multitude of cases which are familiar to a physician, but strange to those who witness them for the first time.

We believe that our views accord with those of most of our professional brethren. An office of this kind should not be given purely as a reward for political claims; it is properly unconnected with politics, and should be conferred only on those who are conversant with the questions which a coroner is almost daily called upon to decide. The subject has been recently agitated at London, and terminated in the election of Mr. Wakley, the editor of the *Lancet*, on the ground that as a medical man he was well fitted to discharge the duties of the office. Yet, politically speaking, his course of action was that of a prominent partisan, and at variance with the opinions of most of his constituents.

There is another matter connected with the subject, in which physicians and the public are both interested. It is this: medical men are frequently called upon to make examinations of bodies brought before the coroner, and to give their testimony as to the cause of death. We do not know whether physicians are legally obliged to perform this duty; but, at any rate, they are not generally disposed to shrink from the performance of a task which, although burdensome, seems necessary to the public good. But, for the sacrifice of time and comfort which is entailed by the exercise of that knowledge which is obtained only at a considerable expenditure of time and money, they are clearly entitled to a

just remuneration; and we doubt not that a proper representation of the subject to the legislature would obtain for them a just recompense for the duties which are to be regarded as strictly professional.

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## DOMESTIC SUMMARY.

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### MEDICAL CONVENTION.

The following gentlemen have been elected Delegates to the Medical Convention for revising the Pharmacopœia of the United States, to meet at Washington on the first Wednesday of January, 1840, viz.:

*By the College of Physicians of Philadelphia*—George B. Wood, M. D., Franklin Bache, M. D., Henry Bond, M. D.

*By the Medical Society of the District of Columbia*—Thomas Sewall, M. D., James C. Hall, M. D., Nicholas W. Worthington, M. D.

*By the New Jersey Medical Society*—Lewis Condict, M. D., — Forman, M. D.

*By the Albany Medical College*—David M. McLachlan, M. D.

*By the Rhode Island Medical Society*—Theophilus C. Dunn, M. D., Usher Parsons, M. D.

*By the New Hampshire Medical Society*—Dixie Crosby, M. D., Daniel D. Adams, M. D., Amos Twitchell, M. D.; and as substitutes, John B. Dousman, M. D., Josiah Bartlett, M. D., Robert Burns, M. D.

*By the Medical Society of Delaware*—William M. Morris, M. D., Cuthbert S. Green, M. D., James Couper, M. D.

*By the College of Physicians and Surgeons of Lexington, Kentucky*—John C. Richardson, M. D., John C. Darby, M. D., Caleb M. Cloud, M. D.

Published by direction of the Medical Convention, which met at Washington, in January, 1830.

LEWIS CONDUCT, M. D., President.

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*New Method of Treatment for Un-united Fracture.* Dr. J. S. Heard, late of the New York Hospital, reports, in the New York Medical Journal, several cases of un-united fracture, successfully treated according to a suggestion of Dr. J. Kearney Rodgers. It consists in *removing the extremities of the fractured bone and connecting the fragments by silver-wire*. This operation has not been adopted in any other place than the New York Hospital. Four cases are reported, in which the operation was successful. We



subjoin the history of a case, illustrating the treatment:

"C. G., aged 26, a German, was admitted into the New York Hospital, September 28th, 1838, with a simple fracture of the radius of the right fore-arm, about two inches above the wrist-joint. The injury was caused by his hand being caught in machinery, and bent forcibly back. There was considerable contusion of the whole forearm, and some laceration of the hand. The fracture of the radius was very oblique, and the lower end of the upper fragment projected nearly through the integuments. The fracture was reduced, and the patient being placed in bed, the arm was laid in a flexed position on a pillow, covered with oil silk, and lot. evap. applied. As soon as the state of the arm would allow, the requisite pads and splints were applied, and the arm supported in a sling. At the expiration of 4 weeks from the application of the splints, they were removed, but no union had taken place. It was now suggested that a strip of muscle interposed between the fragments, was the cause of non-union.

A splint, with a hand piece setting off from the body of the splint at an angle of about  $110^\circ$ , was now applied upon the palmar side of the forearm, in order to elevate the lower fragment. The interosseous pads being only applied between the ulna and this lower fragment, the usual splint was placed on the dorsal side. The arm was thus supported in a sling for six weeks; at the expiration of which period, upon removing the apparatus, there was still no union. The same apparatus was replaced and the patient put under the use of mercury, but it produced profuse diuresis and was discontinued. The splints were allowed to remain applied until January 10th, when Dr. Rodgers made an incision about  $2\frac{1}{2}$  inches in length, over the seat of fracture on the palmar side of the fore-arm; upon exposing the fragments, the radial artery was found running between them; the lower fragment was drawn down to the ulna, while the upper one was separated near an inch from it, a slip of the extensor carpi radialis muscle intervening. The radial artery was divided and secured at both extremities, the intervening muscle was severed, and the ends of the bone removed with the bone pliers. A hole was now drilled into each extremity, and a silver wire being passed through, the bones were approximated by twisting the wire, the end of which was allowed to hang from the wound. The edges of the wound being brought together by adhesive straps, the ordinary pads and splints were applied, and the arm suspended in a sling. A slight attack of erysipelas occurring, required the confinement of the patient to bed, and the removal of the splints; upon the subsidence of the erysipelas in a few days, the splints were re-applied.

February 2d. The wire came away to-day, the loop being entire. The splints and bandages were continued until April 2d, when, upon removing them, the union was found to be perfect. He remained in the hospital, using passive motion, until April 15th."

*A Case of Dislocation of the Patella upon its Axis, with Comments.* By JOHN WATSON, M.D.—The following case is of some importance, inasmuch as it establishes a new fact, or, to say the least, a controverted point in the surgical pathology of the patella.

Henry Burton, a carman, of rather slender frame, and about thirty-five years of age, was on horseback in a crowd at the Park, August 21st, 1839, waiting to see the public reception of the Hon. Henry Clay. In the confusion of the crowd, another horseman backed his horse against him, and the animal's hip striking against Burton's right leg, injured him so severely that he was unable to say how, or in what direction, he received the shock. He was carried immediately to a neighbouring hotel.

I saw him soon after the accident, in connection with Dr. L. C. Ferris, Dr. Stearns of the northern part of the city, and Dr. Thomas F. Cock. The patient was complaining of severe pain; the leg was perfectly straight, but could be flexed about to an angle of  $140^\circ$  without increasing his suffering. The patella appeared to be slightly drawn up, and it was twisted upon its axis, presenting its outer edge, in a prominent hard line, in front of the knee; its inner edge, resting either in the groove between the condyles of the femur, upon which its posterior face should naturally play, or in the small indenture on the anterior face of the femur, immediately above this groove. The anterior surface of the patella was turned inward, its posterior surface outward, and it rested nearly at right angles with its natural position. Its upper and lower attachments were both preserved, and could be distinctly felt; and a sort of band appeared to pass from its under, or, as it now lay, its outer face, inward to the deeper portion of the knee-joint. This band, as I conceived, was caused, either by the tension of the capsular ligament, or by the rupture of its edge, as it passes from the outer side of the patella. The position of the bone was so well marked that no one at all acquainted with the anatomy of the part, could mistake the nature of the accident.

With the leg extended, and the anterior muscles of the thigh forced downwards as much as possible, pressure was made upon the patella, with the expectation of forcing down its prominent edge, and pushing the bone directly into its proper position. The effort was followed only by a severe increase of pain; the bone remained permanently fixed. Another attempt was made to cant its posterior edge inward, and to bring its anterior edge outward, without pressing it against the condyles of the femur, by forcing the head of a key against the posterior, now the outer face of the patella, (using this as a fulcrum,) and pressing the prominent edge of the bone towards the outer condyle. This manœuvre gave him no pain; but was as fruitless in its result as the other. At length the knee was forcibly bent, and immediately straightened again; and then, by canting the patella as before, and pushing it slightly downwards and inwards, it sprung with



a sudden snap into its proper position. The reduction would, doubtless, have been facilitated by flexing the thigh strongly upon the pelvis. This, however, was not attempted, and the manipulation, just described, answered every purpose.

As soon as the bone was replaced the pain ceased; and the patient thinking himself well again, stated that he could now walk as well as ever. A straight splint was applied behind the limb, so as to secure the joint, and the patient was sent home in a carriage, with directions to keep the knee at rest for a few days, and to apply to it an evaporating lotion.

Most authors, who have spoken of luxations of the patella, state that this bone is subject only to the outward and the inward lateral displacement. Sir Astley Cooper admits, also, an upward, and Boyer speaks of both an upward and a downward displacement. But the two former displacements, according to all the writers who have hitherto dwelt upon these accidents, are the only ones that can occur, independent of a rupture, either of the ligament of the patella, or of the common tendon of the extensor muscles of the leg. In a hasty perusal of most of the surgical authorities, as well English as French, I have met with but one instance bearing any relation to the case just related. "I was informed by Mr. Welling, formerly surgeon at Hastings," says Sir Astley Cooper, "that he was called to a case in which the patella was dislocated upon its edge. The nature of the accident was very obvious, as the edge forced up the integuments to a considerable height between the condyles on the fore-part of the joint. Mr. Welling reduced the dislocation, but with considerable difficulty, by pressing the edges of the bone in opposite directions."

Sir Astley Cooper gives this observation in a distinct paragraph, without remarks upon it; and as if in need of confirmation, he allows it no place in his enumeration of the several luxations of the patella. Nothing of the sort is mentioned in Mr. S. Cooper's Dictionary. Boyer, after speaking of the lateral displacements, states, that independent of these, some surgeons have thought that this bone might be luxated "by turning half-way round upon itself, and resting with its edge in the articular pulley of the femur; but," says he, "it is impossible to conceive how the tendon of the extensor muscles of the limb, and the ligament of the patella, could be twisted in unison with the rotation of the bone upon itself; and it is still less conceivable how these parts could be completely turned round from before backwards, as some pretend to have seen."

Where the luxation of the patella outward is but partial, the signs of the accident must be more like those of the case I have described, than where the outward luxation is complete. Yet the difference is still too striking to allow this accident to be confounded with a partial luxation outward. "The external displacement," says M. Sanson, "is easily recognised

by pain, inability to walk, and deformity of the knee; by the ease with which the inner edge of the articular pulley of the femur, as well as that part of the surface of this pulley, which is not covered by the patella, can be felt beneath the integuments; by the prominence upon the external edge of this pulley, formed by the patella, the outer edge of which is *slightly directed forward*, whilst its anterior face is turned *a little inward*, and its posterior face is so situated on the external condyle, that the outer portion of it may be easily touched; by the tension and external deviation of the tendon of the muscles on the anterior part of the thigh, and of the inferior ligament of the patella; by the permanent extension of the leg."

But in the case which I have described, the leg could be slightly flexed; no part of the pulley, except its elevated borders at the condyles of the femur, could be felt; *the patella was drawn upwards, and twisted nearly at right angles with its proper position, so that its anterior face was directed inwards, and its outer edge was thrown completely forward, forming an uneven and very prominent line beneath the skin in front of the joint.*

But though the position of the patella in this case was very different from that which it occupies in the subluxation outwards, yet it is easy to see how the latter accident might be resolved into this. For the patella in slipping outward, while passing over the outer edge of the pulley of the femur, must, from the very shape of the bones, have its outer edge tilted forward, and its inner edge, in consequence, thrown a trifle backward. Now, whilst in this position, and before the patella is allowed to reach fairly to the anterior face of the condyle, a sudden contraction of the rectus and vasti muscles must tend to bring the bone back again within the line of their action: so that instead of slipping completely over the condyle, it will either fall back into its natural position, or its inner edge being arrested, and the bone being thus prevented from moving inwards bodily, its outer edge must be drawn forward toward the axis of the limb, and the accident I have described will be thus produced.

Though some authors describe the lateral displacement as one, occasionally difficult of reduction, yet as a general rule, the bone slips into its place very readily, from the slightest pressure upon it, especially where the knee is extended, and the thigh flexed upon the pelvis; or, as some direct, by attempting to flex the knee, and thus elongate the muscles in front of the thigh. But in the case of Burton, just related, as well as in the case reported by Mr. Welling to Sir Astley Cooper, the patella was firmly fixed, and reduced only after considerable manipulation.

In a case of complete dislocation of the patella outward, which occurred to me, July 25th, 1836, the slightest push of the thumb was sufficient to restore the bone to its proper place. And somewhat contrary to the diagnostic signs usually given as characteristic of this accident, the leg in this instance was slightly but firmly flexed.



The case was that of a young lady of about 22 years of age, remarkably fleshy, but of lax fibre. The accident occurred in dancing. In working the joint immediately after reducing the dislocation, it gave a rough and rubbing sound, that might have been mistaken for the crepitus of a fractured bone. Some œdema and effusion within the capsule followed the accident. But the application of leeches, rest in an elevated position, evaporating lotions, and finally a roller, were sufficient, in the course of a week or ten days, to restore the joint to its proper condition.

Authors differ as to the frequency of simple dislocations of the patella. By referring to some, we might be led to believe these accidents of very frequent occurrence. Such, I suspect, is not the fact. Although I have heard of a few cases in the practice of my acquaintances, the two which I have now mentioned are all that have fallen immediately under my own observation. Mr. Liston, in his *Elements of Surgery*, states that he has never met with a single case.

*N. Y. Med. and Surg. Journ.*

## FOREIGN SUMMARY.

VELPEAU'S CLINICAL LECTURES ON OPHTHALMIA.  
No. V.

*On the Treatment of Inflammation of the Conjunctiva.  
Treatment of Conjunctivitis.*

The treatment of conjunctivitis, like that of all other surgical diseases, may be either general or local. The general treatment is regulated by the constitution of the patient, and the symptoms to which the malady may give rise. The local treatment, on the contrary, is directed against the lesion itself. In conjunctivitis, as, indeed, in all the various inflammatory actions we have yet to study, local treatment is more especially to be depended upon. I do not mean to assert that general remedies, such as bleeding, purgatives, &c., should be banished from the treatment of these diseases; you must be well aware that circumstances too numerous to be mentioned render them often useful, and in some cases even necessary. I wish you, however, to understand that the action of these agents is indirect—that they undoubtedly assist in effecting a cure, but in most instances are not sufficient to produce it of themselves. My ideas on this subject have not been formed *à priori*, but are founded on numerous facts and experiments, which have led me to the conclusion that local remedies ought to occupy the first place in the treatment of ophthalmia.

On examining the local agents which we can employ in the treatment of these affections, we shall find that, as in blepharitis, astringent applications are to be preferred. The treatment of the several forms of conjunctivitis, although not essentially different, presents, nevertheless, modifications of sufficient importance to induce me to treat separately the remedies applicable to each.

### *Simple Conjunctivitis.*

When the inflammation is slight, you will often find that bathing the eye with some emollient liquid, such as an infusion of marsh mallow or linseed, or even with tepid water alone, will in a

few days dissipate every inflammatory symptom. If, however, the inflammation is intense, these means no longer suffice, and you must have recourse to astringent applications, under the form of collyria. The substances generally employed by practitioners are, sulphate of zinc, acetate of lead, or nitrate of silver. The different preparations of the nitrate of silver, which you see me use so frequently, and to which I wish more especially to draw your attention, are by no means modern remedies. The ancients recommend the nitrate of silver, but only as a caustic, in cases of chronic conjunctivitis. Now, you must have observed that in our wards this remedy is principally used as a collyrium or ointment in cases of acute inflammation, and that the success attending this practice is really surprising. Regent, Janin, and Scarpa, who speak in high terms of the nitrate of silver, appear only to have employed it as a caustic. I cannot, however, admit that it acts as a caustic only; its action, in many cases, is certainly resolute, and the rapidity with which it arrests the progress of inflammation in intense conjunctivitis is a decided proof that I am warranted in making this assertion. You have, indeed, seen numerous instances this year, in which the inflammation has been thus rapidly arrested.

Whatever may be the mode of action of the nitrate of silver collyrium, it deserves the decided preference of practitioners. The experiments I have made to ascertain its efficacy are so numerous, that I have no hesitation in speaking thus decidedly. I must, however, add that it is more especially in simple conjunctivitis that the effects of the nitrate of silver are rapid and undeniable. I generally commence with a solution, containing half a grain to an ounce of distilled water, for children, and a grain or a grain and a half to the same quantity of water for adults; the proportion is afterwards gradually increased. When the solution has been used for a short time, it should be laid aside for two or three days, and then again employed as before; and the treatment should be thus continued until the inflammation is entirely subdued.

During the first few days you employ the collyrium, the inflammatory symptoms are often exasperated, and this might create doubts in your mind respecting the efficacy of the remedy—the more so, as, when its use is suspended, the inflammation diminishes, and the disease appears to progress rapidly towards a favourable termination. The patients themselves, indeed, are generally inclined to think that the treatment they have undergone has done them more harm than good; but a well-informed medical practitioner will never entertain such an opinion, as the above mentioned phenomena are in perfect accordance with the laws of pathology.

The solution must be again employed after a few days' intermission, as I have already stated. Were it to be discontinued, from erroneous views respecting its action, the disease would, in all probability, return with greater intensity even than before.

I must also add, that the efficacy of the nitrate



of silver collyrium depends, in a great measure, on the manner in which it is applied, it being absolutely necessary that every portion of the inflamed conjunctiva should be brought into contact with the solution. I need scarcely say that it ought never to be employed as a lotion; two or three drops only should be introduced between the eyelids night and morning. To effect this, the patient must lean his head back, and then, separating the eyelids as far as possible, you allow two or three drops to fall from the phial on the eye. You should then immediately close the eyelids, and keep them in contact for a few seconds, at the same time directing the patient to move the eye in various directions.

I have entered into these details respecting the nitrate of silver collyrium, because it is, without exception, the remedy on which we may place the greatest reliance, not only in the affections which we are now studying, but in several others of which I shall have to speak hereafter. We must not, however, forget, that in many cases local treatment alone is not sufficient, and that we are then obliged to have recourse to general means. Thus, if the inflammation is intense, and the patient of a plethoric habit of body, it becomes necessary to bleed. In some cases of this nature, I have derived great benefit from bleeding *coup sur coup*, according to M. Bouillaud's method. If, on the contrary, there appear to be slight symptoms of gastric irritation, purgatives may be resorted to. In a word, general symptoms, whatever they be, when they exist, should be treated as in all other inflammatory affections.

#### *Conjunctivitis with Chemosis.*

I have described two forms of chemosis essentially different from one another; you will not, therefore, be surprised to hear that the treatment of each of these forms is also essentially different.

When you meet with the inflammatory or phlegmonous chemosis, you must at once have recourse to antiphlogistics, following up the treatment with greater or less energy, according to the degree of intensity of the inflammation. In these cases, bleeding from the arm *coup sur coup*, and leeches applied to the temples, or to the mastoid region, are often attended with very favourable results. I have in many instances found this practice exceedingly beneficial. Direct applications have also been much employed in this, the acute form of chemosis. From the earliest periods, surgeons have attempted to bring about the resolution of the inflammation by scarifying the injected tissues. The ancients, you well know, performed this operation with barley spikes. I am, however, inclined to think that scarification of the conjunctival vessels does not deserve the praise given to it not only by the ancients, but also in our own times by M. Demours, and by the English practitioners, who, I believe, employ it pretty generally. M. Sanson says he has found scarification in some instances a valuable remedy. It may be so; as, however, my experience on this subject has not been very extensive, I do not feel warranted in giving a de-

cided opinion. I must, at the same time, remind you, that we have in our possession a more efficacious, and certainly less dangerous remedy; I allude to leeches applied to the surface of the conjunctiva itself. In 1817 I made several experiments, at Tours, with M. Bretonneau, to ascertain the effects produced by leeches thus applied; and I must say we always found that the patient derived great benefit from their application.

I do not wish entirely to banish scarifications from the treatment of inflammatory chemosis, as cases may occur in which they ought to be resorted to; but these cases are rare; general blood-letting and leeches, applied as I have stated, are almost always sufficient to subdue the chemosis. I seldom have recourse even to leeches; not that they cause much pain, but from the trouble attending their application. They are not, it is true, long in filling themselves, but they have to be applied one by one, which makes it rather a tedious affair.

To resume, the following is the course I generally pursue. I begin by general and local blood-letting, regulating the quantity of blood extracted, and the number of times the operation is repeated, according to the intensity of the inflammation, and the constitution of the patient. If these general means are not sufficient to calm the inflammatory symptoms, I then apply leeches to the conjunctiva. When the tumefaction and inflammation have subsided, I have recourse to the nitrate of silver collyrium. By thus uniting general and local treatment, I frequently succeed in subduing the chemosis in the course of a few days; and should you adopt this plan in your practice, I am convinced it will be followed by the same results.

The second form of chemosis—the serous or œdematous form—not being essentially of an inflammatory nature, it is no longer necessary to resort to general or local depletion. Purgatives seem to be the most useful remedy we can employ in this affection; and among them calomel, given in Rasorian doses, occupies undoubtedly the first rank. Here again, however, the nitrate of silver collyrium is the agent on which we must chiefly depend for a radical and definitive cure of the disease.

#### *Partial Conjunctivitis.*

The treatment is the same in this form of inflammation as in simple conjunctivitis. I shall, therefore, confine myself to a caution respecting the use of the nitrate of silver collyrium. It must be employed with rather more circumspection than hitherto, and applied, as far as possible, to the parts only which are inflamed, in order that the remainder of the mucous membrane should not be too much irritated.

#### *Papular Conjunctivitis.*

The nitrate of silver collyrium does not always prove sufficient to effect the cure of papular conjunctivitis. When this remedy does not succeed, the best plan we can adopt is that of cauterizing lightly the papulæ with the solid nitrate. As soon as this has been done, it is advisable to drop a little cold water over the cauterized spot, with



the view of preventing the parts of the conjunctiva you wish to preserve intact, from being injured. During the two or three days which follow this slight operation, the symptoms are exacerbated, the intensity of the inflammation being apparently much increased. You have already seen that this is generally the case, even when the solution is employed. The patient, however, soon begins to feel better, the inflammation diminishes, and, when the papulæ have been cauterized a time or two, entirely disappears. This form of conjunctivitis is much more obstinate than those we have already examined: this is a fact you ought always to bear in mind.

*Granular Conjunctivitis.*

After what I have said respecting the seat and the symptoms of granular conjunctivitis, you will not be surprised to find that it is the form of conjunctivitis which usually proves the most rebellious to therapeutical agents. The disease is not, however, incurable, a well-directed treatment, continued with perseverance, being generally successful,—more frequently, indeed, than in granular blepharitis. The treatment of this affection is exactly the same as that of granular blepharitis. I shall, therefore, to avoid repetition, refer you to what I stated in a former lecture, with regard to the treatment of this malady.

These are the considerations I have to offer you respecting the treatment of the various forms of conjunctivitis we have already examined. I shall now proceed to describe the purulent forms of inflammation.

*Purulent Conjunctivitis.*

All the morbid affections described by authors under the name of purulent ophthalmia may be reduced, as regards their primitive seat, to two principal classes:—

1st. Purulent blepharitis; that is, purulent blepharitis of new-born children, or purulent blepharitis of adults.

2d. Purulent conjunctivitis.

I have already stated my reasons for making this division; it would therefore be useless to repeat what I have said.

Purulent conjunctivitis is generally admitted to be contagious. The facts which can be adduced to support this opinion are so numerous, that I scarcely consider it necessary to discuss the question; there can, indeed, be no doubt on the subject. The disease seems often to rage as an epidemic; and there are, perhaps, few countries where, at one period or another, it has not exercised its ravages. There are, consequently, many interesting treatises on this malady to be met with, nearly each epidemic having had its historian. Were you to form an opinion from the mere perusal of these treatises, you would admit numerous forms of purulent conjunctivitis. I am, however, inclined to think that the authors of these monographs, led astray, in some degree, by a minute appreciation of peculiar symptoms, perhaps also influenced by the charm of novelty, have considered the disease they had observed as a new affection, although, in reality, it had no claim to such a distinction. If we examine with

care, and without any prevention, the descriptions they give, we cannot but acknowledge that there exists the greatest analogy between the various epidemics; an analogy which warrants my considering them as mere modifications of two principal forms of disease. The forms to which I allude, are—

1. Gonorrhæal conjunctivitis.

2. The purulent conjunctivitis of Egypt.

I do not intend to examine separately the numerous epidemics which have been witnessed and described in our own and other countries; we have not time to devote to such a study. If any of you, however, doubt the correctness of these remarks, I would request you to draw a parallel between the different descriptions; you would then see immediately that these affections are, in reality, nearly identical. If you listen attentively to what I am about to say, you will, I think, be able to form a correct opinion respecting purulent ophthalmia.

*Gonorrhæal Conjunctivitis.*

Although numerous researches have been made to ascertain the nature of this affection, practitioners are far from agreeing with regard to its original mode of production.

Some look upon the disease as the result of a metastasis of the urethral affection to the mucous membrane of the eye; others attribute it to gonorrhæal matter being, by some means or other, brought in contact with the conjunctiva; some, again, attribute it to a general syphilitic infection of the system. Each of these opinions numbers many partisans, who bring forward numerous facts and arguments to defend their theoretical views. Indeed, any one of these opinions might be adopted, without any offence to reason, to the exclusion of the other two. Whatever may be the manner in which gonorrhæal conjunctivitis originates, no one in the present day can doubt its syphilitic nature; the facts which establish this point are too numerous to be denied, and this is quite sufficient to guide us in practice. We will now proceed to describe the symptoms by which the malady may be recognized.

One of the most striking features of this disease is the extreme rapidity with which it progresses. The rapidity is, indeed, so great in some cases, that it becomes impossible to follow the march of the complaint through its different periods. The eye may be lost in less than four-and-twenty hours, and that without its being possible for the surgeon to arrest the progress of the malady. This is not, however, always the case; the march of the disease may be sufficiently slow to enable us to study it in its different stages. These are the cases I shall take as models in the description I am about to give you. In either form, however, the affection is a most serious one, and one in which the surgeon must not temporise, but act at once, and with energy.

When gonorrhæal inflammation of the conjunctiva is moderate, the following are the symptoms which we observe:—The conjunctiva, at first of an uniform red cinnabar colour, soon becomes of a darker hue, and assumes a tinge similar to that



of wine-lees. The injected vessels are no longer to be distinguished from one another, and the tissue itself of the membrane, as well as the cellular layers separating it from the sclerotica, becomes gorged with blood, and tumefied. The free surface of the conjunctiva, at first smooth and polished, soon assumes a velvety appearance, and presents a great number of granulations, the volume of which varies from the size of a millet seed to that of a large pea. This tumefaction of the conjunctiva gradually increasing, soon gives rise to chemosis, with all the concomitant symptoms.

The tissues which enter into the formation of the palpebræ are generally more or less inflamed. The eyelids become much swollen, and the cutaneous surface is red and hot, the patient complaining at the same time of burning pain in this region. Sometimes the tumefaction of the upper eyelid is so considerable, as to partly cover the lower one. Sometimes, on the contrary, there is ectropion, and then the velvety appearance of the globe of the eye is perfectly visible; the eye presenting a fungous, granular surface, in the centre of which we see the cornea, more or less concealed by the tumefaction of the conjunctiva. The most important character, however, the character which may be considered pathognomonic of this form of ophthalmia, is to be found in the thick greenish-yellow purulent mucus, which is continually discharged from the eye,—mucus which may be compared in every respect to the discharge we meet with in gonorrhœa. If the eyelids are separated, the purulent fluid which is retained between the eye and the palpebræ by the tumefied state of these organs, flows in a stream over the face. In this affection, as in those we have already examined, the visual functions are not disordered unless the swelling be so great as more or less to conceal the pupil, and thus diminish the field of vision. The deep-seated pain felt by the patient must be attributed to the compression exercised on the globe of the eye by the inflamed and tumefied tissues.

These symptoms, if borne in mind, will always enable you to recognize gonorrhœal conjunctivitis. You must not, however, think that this affection is always met with as I have just described it,—that is, in the simple inflammatory form, without complication. Unfortunately, the inflammation is seldom confined to the conjunctiva. In many instances it attacks the cornea, and it is to this complication I particularly wish to draw your attention. It is not always in our power to prevent the inflammation extending to the cornea, which is then often destroyed in the course of a few hours, although previously perfectly healthy and transparent. In some cases, nevertheless, we are able to follow the progress of the disease after it has reached the cornea. When this is the case, we find that the symptoms are developed with extraordinary rapidity. The cornea loses its transparency, and becomes of a whitish-gray colour. Vision is also necessarily impaired, the patient complaining of a mist which obstructs the sight. The tissue of the cornea

seems infiltrated with an opaque fluid; a kind of pultaceous matter covers the free surface, from which it is easily separated. Very soon, pus takes the place of the pultaceous matter, and an ulceration is seen, with perpendicular edges of variable size. This ulceration growing deeper and deeper, the cornea is at last entirely perforated, and the humours of the eye evacuated. The iris then becomes engaged in the perforation of the cornea; and the interior of the eye, which is the seat of intense inflammation, suppurates profusely.

I have often remarked in gonorrhœal conjunctivitis, that when the secretion of mucus is considerable, of a purulent nature, and by its acrid properties gives rise to slight inflammation of the skin over which it passes, the cornea remains perfectly sound; whereas, if the secretion is less abundant, of a whitish colour, of a creamy consistence, and does not irritate the skin, we often find that the cornea is perforated in the manner I described. This circumstance has also been noticed by other practitioners. You must not, however, look upon this as a general law; were you to do so, you might often be led to entertain false hopes with regard to the termination of the disease.

Gonorrhœal conjunctivitis does not always terminate thus unfavourably. An energetic, well-directed treatment will sometimes destroy the inflammation at the onset, and the cure may be thus completed by the local treatment I shall presently describe.

In the most favourable cases, when the disease terminates by resolution, the secretion of mucus becomes every day less thick and less abundant. The tumefaction also diminishes, and by degrees every tissue returns to its normal state. The resolution is, however, seldom complete, the conjunctiva retaining more or less of its vascular appearance, and the mucous follicles remaining voluminous and indurated. A glutinous, half-purulent matter continues to be secreted. When the eye is in this state, the slightest cause will bring back the acute form of inflammation. The surgeon should, therefore, use every endeavour to subdue the inflammation which still exists in this, the subacute form.

Sometimes, after gonorrhœal conjunctivitis, the cornea presents opacities which interfere more or less with vision, according to their extent, and according to the part of the cornea they occupy. I merely allude now to these lesions of the cornea, as I shall speak of them at length when treating of keratitis.

#### *Treatment of Gonorrhœal Conjunctivitis.*

If all I have said respecting this malady, has been well understood, you must, in some measure, be already aware of the nature of the treatment which ought to be pursued. At the very commencement of the disease, as soon as he is aware of its presence, the practitioner must attack it with energy. The least delay on his part, or the inefficacy of the agents he employs, is generally attended with fatal consequences to the organ affected. When the disease is a little



farther advanced, it is too late; the most powerful measures are then nearly always unable to arrest the rapid strides of the malady.

Purulent conjunctivitis is undoubtedly the form of ophthalmia which most imperiously requires general treatment. You must, therefore, at once have recourse to blood-letting, general and local. The practice of bleeding *coup sur coup*, to syncope, is often attended with very beneficial effects. I have several times resorted to this mode of treatment, and that with success; the intensity of the inflammation being, indeed, such as to warrant the most energetic measures. When, by copious and repeated bleeding, you have diminished the volume of the circulating fluid, you must endeavour, by the depletion of the inflamed tissues, to act more directly on the malady. The means by which this may be accomplished are various. Some recommend leeches applied round the orbit, on the mastoid region; others, the opening of the temporal artery, or the scarification of the conjunctiva. Arteriotomy does not certainly deserve the praise which has been given to it by some. When other means fail to arrest the progress of the inflammation, I should not expect greater success from such an operation. As, however, it is a plan I have not very often tried, I will not speak very decidedly on the subject.

Excision of a portion of the conjunctiva, which has been recently extolled by M. Sanson, is often attended with serious consequences; we ought, therefore, to be careful how we make use of such a remedy. I should myself prefer repeated applications of leeches on the conjunctiva. By adopting this plan the end proposed is attained, and the disagreeable consequences which may follow the excision are avoided.

When you have subdued the inflammation by general and local depletion, to complete the cure you must have recourse to another plan of treatment. The measures to which I have just alluded are, it is true, indispensable in the great majority of cases. Nevertheless, alone, without the assistance of local applications, they would not restore the inflamed tissues to their normal state. Before I speak of topical remedies, however, I must say a few words respecting a special mode of treatment which has been proposed by some practitioners.

Reasoning on the supposed gonorrhœal nature of the malady, they consider it advisable to recall the discharge from the urethra; this is to be effected by various means. Some propose introducing into the urinary canal a bougie impregnated with gonorrhœal matter proceeding from another individual, or from the inflamed eye. Others assert that the presence alone of a bougie is sufficient to give rise to the discharge. There are, it is true, facts which tend to prove that on producing inflammation of the urethra, the intensity of the ocular inflammation has been diminished; but I must observe to you, that this plan of treatment can only be indicated when the gonorrhœal conjunctivitis is metastatic, that is, when it has occurred immediately after the de-

crease or the suppression of the urethral discharge. Again, prudence will scarcely, in my opinion, allow us to attack a disease so rapid in its progress by a treatment the action of which is comparatively slow.

The same theoretical views have induced some surgeons to employ the internal remedies which are used in gonorrhœa. The objections I have just made may be repeated here. The action of these medicinal agents is too slow for it to be prudent to employ them in the first or acute period of the disease; when the inflammation has in a great measure subsided, and then only advantage may be derived from this method of treatment. In cases of subacute inflammation, I have myself found cubebs and the balsam of copaiba, given in large doses, extremely beneficial.

The treatment I shall definitively recommend to you may be resumed in a few words. Copious bleeding should be resorted to during the first period of the disease, until the inflammatory symptoms are entirely subdued. Astringent collyria may then be applied to the inflamed parts, and a revulsive action set up in the intestinal canal. When the disease is to be attributed to metastasis, one of the methods I have described may be employed, with the view of recalling the urethral discharge.

By thus uniting general and local treatment, I have succeeded in all the cases I have treated, when the cornea was not already affected at the time they came under my care.

When the inflammatory symptoms have abated, the disease may yet prove more or less rebellious to the remedies you employ; you need not, however, entertain any fear respecting the sight of the patient. In many cases granulations of variable size remain on the conjunctiva, and resist the action of all astringent collyria, none of which seem sufficiently energetic to destroy them. Recourse must then be had to cauterization with the solid nitrate of silver; and should it likewise fail, to excision of the granulated portion of the conjunctiva. I would, however, advise you only to adopt this last plan of treatment when all other means have failed, as excision of a portion of the conjunctiva is sometimes attended with very unfortunate results.

#### *The Egyptian Purulent Conjunctivitis.*

On comparing the published descriptions of the epidemics of purulent ophthalmia which have been observed in various countries, I have found so much analogy between them and the Egyptian form of purulent inflammation, that I do not hesitate to describe them under the same head. If these descriptions are faithful, as, indeed, I am inclined to believe they are, the morbid symptoms are nearly always the same, as also the treatment. I cannot, therefore, see any really valid reason for treating separately of each of these affections. It appears, however, that the Belgian epidemic presents some symptoms which have not been noticed in other epidemics of the same nature. Thus it has been asserted that granulations are to be met with on the conjunc-



tiva, and that these granulations have not been observed before in purulent conjunctivitis. Is it, however, certain that granulations did not exist in the Egyptian ophthalmia? Is it certain that they were not then overlooked by our surgeons, who do not, it is true, mention their presence? This is a question which deserves to be investigated; I myself am inclined to think that they exist in all cases of purulent conjunctivitis. We will now examine what are the characters of this disease, and you will then, I hope, have a clear idea of the various purulent forms of inflammation.

The contagious or non-contagious nature of the Egyptian purulent form of inflammation has been the subject of much discussion. Most persons now agree in considering it to be contagious; and this opinion, which is substantiated by numerous well-authenticated facts, has not been shaken by the experiments performed on himself by Mackely, and quoted by Mackenzie in his treatise on Diseases of the Eye, page 184.

The etiology of this affection is extremely obscure. In Egypt, the reflection from the sand, the nature of the climate, &c., are quite sufficient to account for its presence. When, however, we find it appearing on the transports between Leghorn and Egypt—when we see it exercising its ravages in other countries, in England, in Belgium, and that with the same violence as in the country where it was first observed—we can no longer attribute its existence to these causes alone. If we admit the contagious nature of the malady, we can easily account for its attacking troops on their passage to Egypt; it is not, however, equally easy to prove that the epidemics, to which I have alluded, have been imported from that country, as some writers have asserted.

Other reasons have been given to account for the appearance of the disease. Thus the Belgium epidemic is attributed by M. Vleminckx to the soldiers wearing *schakos*, which are too heavy, to their washing their heads with cold water, and to the collar, which forms part of their uniform, being too tight, and consequently compressing the neck. These causes are not, most certainly, worthy of the attention they have met with. How is it, indeed, that the malady has only existed in the Belgian army for the last six or seven years, if its existence is to be explained by causes which have always been in action? M. Vanhonsbrooch is not much more rational in his attempt to explain the origin of the epidemic, when he attributes it to the irritating action on the eyes of the subcarbonate of lime, which is used by the soldiers in cleaning their buffletery. Would it not be better to acknowledge at once, that in this instance, as in many others, we are unacquainted with the primary cause of the disease?

The form of purulent inflammation is similar, in many respects, to gonorrhœal conjunctivitis. It presents the same rapidity in the appearance of the symptoms, the same intensity, and is followed by nearly the same consequences. In the disease we are examining, however, the inflammation generally attacks both eyes at once, although, in some instances, one of them is affected

some time before the other. In gonorrhœal conjunctivitis, on the contrary, generally speaking, one eye only is the seat of disease. When the progress of the malady is not too rapid to allow us to observe the various symptoms, we find they manifest themselves in the following order:—

The patient complains at first of intense itching in the eye: this symptom generally makes its appearance in the evening. The itching is soon followed by the peculiar sensation of which we have so often spoken—that of extraneous bodies placed between the eye and the mucous surface of the palpebræ. The conjunctiva at the same time becomes inflamed; its tissue, as also the cellular lamellæ on the internal surface, are gorged with fluid, and tumefied. The vascularization of the conjunctiva is from the commencement extremely well defined; the size of the caruncula lacrymalis is much increased. The parts thus tumefied are soft, rather elastic, and bleed easily. This is not, however, an unfavourable circumstance, as the slight hæmorrhage which is thus produced tends to diminish the swelling. Four-and-twenty hours after the appearance of the above symptoms, a slightly viscid and opaque mucus is secreted, and the inflammation then extends to the entire internal surface of the palpebræ. This mucus soon assumes a thick, yellowish, purulent appearance. The eyelids become very much tumefied, especially the upper eyelid, which often covers nearly entirely the lower one. When they are separated, a considerable quantity of the purulent secretion escapes from the eye, and, flowing over the face, excoriates the skin wherever it passes. The ocular conjunctiva may become of a fungous nature, and be swollen to such an extent as to separate the free edges of the eyelids, and protrude from between them. When this is the case, the conjunctiva being irritated by the contact of the air, the secretion is extremely abundant. It may, indeed, according to Dr. Vetch, amount to several ounces daily.

Such are the principal symptoms of the Egyptian purulent conjunctivitis. Unfortunately this disease terminates, in most cases, by the extension of the inflammation to the cornea, and the total loss of the eye. As we have examined this complication, when speaking of gonorrhœal conjunctivitis, I shall refer you to what I then said on the subject.

Besides the local symptoms which I have just described, there are also general symptoms, which must not be omitted. The pulse is small, sometimes hard; generally, however, it remains soft. The skin is hot; the appetite nearly always remains good. Should the disease continue for several months, the patient generally falls a victim to diarrhœa, dysentery, and marasmus.

I shall not enter into any details respecting the treatment of this disease. It is in every respect similar to that of gonorrhœal conjunctivitis, with which we are already acquainted; with the exception, however, of those indications which are founded on the gonorrhœal nature of the disease. —*London Medical Gazette.*